

Sugar Alcohol

Many "sugar free" foods have ingredients called sugar alcohol or polyols. Part of their chemical structure resembles sugar and part resembles alcohol, which is how their name was derived.

Sugar alcohols occur naturally in plants. However, most are manufactured from sugars and starches.

These products can be more harmful than sugar when ingested. Because the body does not completely absorb sugar alcohols, they can ferment in the intestines causing gas, bloating and diarrhea.

There are three main reasons why manufacturers use sugar alcohols.

1. Sugar alcohols have less calories than sugar.

As consumers became more savvy about the direct correlation between sugar and weight gain, measures were taken to sweeten foods without the added calories of sugar.

The reason sugar alcohols provide fewer calories than sugar is because they are not completely absorbed into your body. Because they are not fully digested, high intakes of foods containing sugar alcohols can lead to abdominal gas, cramping and diarrhea.

Although sugar alcohols have less calories, most of them are not as sweet, so more has to be added to obtain the same amount of sweetness. Because many of these products are labeled as "diet" foods, consumers ingest more, thus offsetting their original intention of consuming less calories. Many people, especially those who sip on diet sodas all day wonder why they cannot lose weight.

2. Some sugar alcohols have less of an impact on blood sugar levels compared to sugar, which is great for diabetics. However, care needs to be taken because products often have other sugars added for sweetness.

3. Some sugar alcohols do not promote tooth decay. Thus, they are commonly used in sugar-free chewing gum, mouthwash and toothpaste.

The following are the main sugar alcohols currently being added to processed foods.

ERYTHRITOL occurs naturally in fruits and fermented foods. Generally it is produced from glucose by fermentation with a yeast.

Erythritol is about 65% as sweet as table sugar and has a caloric value of 0.2 [calories](#) per gram, which is 95% less than sugar.

It does not spike blood sugar levels in the way that high-fructose corn syrup might and it is anti-bacterial and actually helps prevent dental cavities.

It is absorbed by the body, therefore unlikely to cause gastric side effects unlike other [sugar alcohols](#)

Erythritol can be found in frosting, chocolate bars, chewing gum, hard candy, baked goods and some beverages.

Allergic side effects can be itching with hives.

ISOMALT is derived from beets and can be found under the trade name DiabetiSweet, a sugar substitute sold for baking use. It is often blended with a high intensity sweetener such as sucralose so that the mixture has approximately the sweetness of sugar.

It has about half the calories of sucrose, doesn't tend to affect blood sugar levels and does not promote tooth decay.

Isomalt can be found in hard candies, toffees, chewing gum, chocolates, baked goods, nutritional supplements, cough drops and throat lozenges.

LACTITOL has approximately 40% of the sweetness of [sugar](#), having 2.4 [Calories](#) per [gram](#), compared to 4 Calories per gram for typical sugars.

Lactitol does not increase blood sugar levels nor contributes to tooth decay.

Lactitol can cause cramping, flatulence, and diarrhoea in some individuals. This may be in part because "Lactitol is manufactured from whey, the lactose (milk sugar) rich by-product of cheese making and processed dairy foods.

It is popular for baking and used in cookies, [chocolate](#), ice cream, hard and soft candies, baked goods, sugar reduced preserves, chewing gums and sugar substitutes.

It is used to prevent [constipation](#) under the trade name *Importal*.

MALTITOL is also known under the trade names Maltisorb and Matlisweet. Maltitol is a carbohydrate that provides 2-3 grams of calories per gram, which is very close to sugar. Maltitol affects the blood sugar and is known to produce gas, cramping, bloating and diarrhea in many individuals.

Maltitol is made from starch, having 75-90% of the sweetness of [sucrose](#) (table sugar) and nearly identical properties, except for browning. It is used to replace table sugar because it has fewer [calories](#), does not promote tooth decay and has a somewhat lesser effect on blood glucose.

It can be found in sugarless [hard candies](#), [chewing gum](#), [chocolates](#), baked goods, and [ice cream](#). The pharmaceutical industry uses maltitol as a low-calorie sweetening agent.

It is very easy for food producers to use it in vast quantities, due to its similarity to sugar, so consumers often end up ingesting far more than they could most other sugar alcohols, which can create gastrointestinal upset.

MANNITOL is manufactured from seaweed and naturally occurs in fruits and vegetables. In addition to being used as a sweetener, it is also used for several medical applications, such as a diuretic.

Mannitol is about half as sweet as sugar and has 1.6 calories per gram, compared to sucrose, which has 4 grams. It's slower absorption rate slows the rise of blood glucose, making less demands for insulin, which is helpful for diabetics.

Like most other sugar alcohols, when consumed in large amounts, it may cause gastric distress.

Mannitol is used as a [sweetener](#), in [chewing gum](#), "breath freshening" candies, confections and chewable tablets.

Polyols, such as mannitol, are resistant to growth of oral bacteria and do not increase the acidity of the mouth after ingestion. This means that they will not lead to cavities or erode tooth enamel, which makes them popular to sweeten the taste of toothpaste and mouthwashes.

SORBITOL is derived from corn syrup and is also known as **GLUCITOL**. It is medically used as a laxative and may aggravate gastrointestinal conditions such as irritable bowel syndrome. It is often used in [diet foods](#), mints, [cough syrups](#), cookies and sugar-free [chewing gum](#).

Sorbitol is about 60 percent as sweet as sucrose and has 2.6 calories per gram.

Like many other sugar alcohols, it is beneficial for diabetics to use sorbitol rather than sucrose. It also does not prevent dental caries, which is why it is used in toothpaste and mouthwashes. Sorbitol is also used in various pharmaceuticals and cosmetics.

Sorbitol can be found in chocolates, confections, baked goods, chewing gum, candies, frozen desserts, cookies, cakes and icings and fillings.

XYLITOL is also known as birch sugar or wood sugar because it originally was produced from birch tree pulp. Today xylitol is mainly extracted from corn. Other sources are raspberries, oats, mushrooms and plums.

Unlike most sugar substitutes, xylitol is a natural occurring substance.

One teaspoon of xylitol contains 9.6 [calories](#), as compared to one teaspoon of [sugar](#), which has 15 calories.

Xylitol has virtually no [aftertaste](#). Due to its lower impact on blood sugar, compare to sucrose, it is deemed safe for diabetics.

Xylitol is mainly used as a sugar substitute in chewing gum, hard candy, gum drops, sugar-free pudding, jello, diabetic foods and baked goods, especially cookies.

Because xylitol does not promote bacteria in the mouth, the sweetener is used in some brands of toothpaste and mouthwash. It is used medicinally as an antibacterial agent taken orally to help fight ear infections.

As with most sugar alcohols, initial consumption can result in bloating, diarrhea, and flatulence, although generally rather less so than other sugar alcohols like [sorbitol](#).¹

Do not feed products containing xylitol to your pets. It causes mass insulin release in dogs, leading to sudden hypoglycemia, a drop in blood sugar levels. Symptoms include lethargy, confusion, staggering, seizures and in some cases, death.